

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

YVES MALECOT ET AL

U.S. Serial No. 09/744,946

Filed: February 8, 2001

Group Art Unit 1723

M. Ocampo, Examiner

FILTERING ELEMENT MADE OF ABSORBENT PAPER MATERIAL IN THE FORM OF A
TUBULAR CYLINDER

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Transmitted herewith is ~~an amendment~~ / a response in the above-identified application.

- ☒ No additional fee is required.
☐ An additional fee is required as calculated below -

Claims		Highest No.		Small Entity		Other Than A	
Remaining	After	Previously	Present	Rate	Add'l	Rate	Add'l
Amendment		Paid For	Extra		Fee		Fee
Total	Minus *			x \$ 9	\$	x \$18	\$
Indep	Minus *			x \$43	\$	x \$86	\$
First Presentation of Mul Dep Claim....				x\$145	\$	x\$290	\$
Total Additional Fee.....				\$		\$	

- * The "Highest Number Previously Paid For" (Total or Independent) is the highest number of claims filed originally or highest number found from equivalent box of a prior amendment.

- ☐ This response is being filed within the period for response.
- ☒ Applicant(s) hereby petition for an extension from the date of the Examiner's Action as follows:
- ☐ First-Month Extension..... \$ 55.00 / \$ 110.00
☒ Second-Month Extension..... \$ ~~210.00~~ / \$ 420.00
☐ Third-Month Extension..... \$ 475.00 / \$ 950.00
- ☐ Small entity status of this application has been established.

A Check in the amount of \$ 420.00 is attached hereto. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-3690 of the undersigned attorney. A duplicate copy of this sheet is enclosed.

10/08/2003 CCHAU1 00000069 09744946

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420.00 OP

Date: October 1, 2003
(703) 684-6885

Respectfully submitted,

By Mary T. Breiner
Attorney of Record, Reg. No. 33,161

5418/tat



"PATENT APPLICATION"

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Alexandria, Virginia
October 1, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

R E S P O N S E

Dear Sir:

This is in response to the official action mailed May 1, 2003. Applicants have considered the outstanding official action and respectfully submit that the claimed invention is patentable over the cited art as set forth below.

The proposed drawing correction of Figure 1 submitted April 15, 2003 has been disapproved on the basis that the polarizing positioning means should be within the case. The Examiner's understanding is correct and the prior proposed drawing correction was in error. Accordingly, applicants' are submitting herewith a newly corrected Figure 1. Polarizing positioning means 34 is shown in the casing

in relation to the periphery of filter element 14. Approval of attached proposed corrected Figure 1 is requested.

The outstanding rejections based on prior art are as follows:

- (1) Claims 13-15, 18-21 and 25 under 35 U.S.C. §103(a) over U.S. Patent No. 4,454,036 (Suzuki) in view of U.S. Patent No. 2,512,797 (Harvuot);
- (2) Claims 13-21 and 25 under 35 U.S.C. §103(a) over Suzuki in view of Harvuot and U.S. Patent No. 4,487,378 (Kobayashi); and
- (3) Claims 22-23 under 35 U.S.C. §103(a) over Suzuki, Harvuot and Kobayashi as applied above to claim 13 and further in view of British Application No. 2,150,456 (Whiteside).

The pending claims are 13-23 and 25 wherein claim 13 is the sole independent claim. Claim 13 claims a filter element comprising absorbent tissue paper material in sheet form compactly wound to form inner winding turns therein and to constitute a tubular cylinder. Fluid is able to move across the filter element in a substantially centripetal direction. The filter element is devoid of a core and the inner winding turns have a contour which prevents the inner winding turns from unraveling inward. Applicants submit that this

structural combination is not taught or suggested by the applied art.

More specifically, contrary to the assertion of the Examiner on page 4 of the official action, the filter element described in Suzuki does not teach absorbent tissue paper in sheet form compactly wound nor teach that fluid can move across the described filter element in a substantially centripetal direction. Additionally, Suzuki does not teach a filter element devoid of a central core and does not teach or suggest providing inner winding turns in the filter element which exhibit a contour which prevents inward unraveling of the inner winding turns.

Suzuki teaches "a filter element which is formed by wrapping many times a thin sheet of water insoluble paper 1a about a cylindrical core member 1b in the same manner as so-called toilet paper" (column 2, lines 42-45). The core can be made of thick paper, a plastic pipe or a metal pipe (column 2, lines 46-50). Accordingly, Suzuki does not teach the use of toilet paper, an absorbent paper, but rather only teaches a way of forming a wound roll on a core, i.e., in the same manner as toilet paper. Suzuki provides no teaching or suggestion that the water-insoluble paper is "compactly wound" as a roll. A roll compactly wound on a core would in fact collapse.

Further, Suzuki does not teach providing a wound roll having a centripetal flow. As disclosed at column 4, lines 8-10, the flow speed through the filter element is high in the axial direction but low in the diametrical direction. Thus, even if a small part of the flow were centripetal, the structure of the filter is designed for major axial flow. This is confirmed since there is no opening along the surface of the central axis. As described at column 2, lines 45-50, the central core member 1b is made of thick paper, plastic or metal. Clearly, therefore, no fluid can pass through the core member. Further, with such an axial flow and structure, there is no centripetal collapsing issue and thus no recognition to provide a wound roll having inner winding turns exhibiting a contour to prevent inward unraveling of the inner winding turns.

Harvuot, the secondary reference, does not make up for the shortcomings of Suzuki. Upon combination of Suzuki and Harvuot, applicants' claimed invention would still not be provided. Harvuot teaches in column 1, first paragraph, a filter made from a sheet of laminated cellulose wound into a cylinder and having a plurality of layers. The paper has been treated with a phenolic formaldehyde resin. The resin is baked at 250°F to allow removal of the winding mandrel and to render the resin insoluble in water, petroleum

products and other liquids, see column 2, lines 24-36. Such impregnated paper has nothing in common with an absorbent tissue paper which is composed of paper without any resin.

Thus, one skilled in the art would not combine the teachings of Suzuki and Harvuot and obtain applicants' claimed invention. Substitution of the filter of Harvuot in an oil filter as described in Suzuki would not result in a filter element of absorbent tissue paper devoid of a core member, in particularly being compactly wound and allowing fluid to move across the filter in a substantially centripetal direction. Accordingly, the combination of Suzuki and Harvuot is deficient in teaching and suggestion with respect to the combined structure of the claimed invention.

The secondary references of Kobayashi and Whiteside do not make up for the shortcomings of Suzuki and Harvuot.

Kobayashi teaches making a compactly wound roll of tissue paper. However, there is no teaching or suggestion in any of Suzuki, Harvuot or Kobayashi that such would be suitable as a filter element. Each of Suzuki and Harvuot teach required structural elements to meet the disclosed purpose of a filter element, which, without some suggestion or the use of impermissible hindsight, would be inconsistent

with the teachings of Kobayashi. Accordingly, the roll of Kobayashi would be modified to meet the requirements of Suzuki or Harvuot, or one skilled in the art would not even look to Kobayashi in view of the difference in use and structure.

Whiteside is applied with respect to an additional limitation in dependent claims. Whiteside also does not make up for the shortcomings of Suzuki, Harvuot and Kobayashi. Whiteside is not directed to a coreless filter element of a compactly wound absorbent tissue paper devoid of a core and allowing for movement of fluid in a centripetal direction across the filter element. Whiteside teaches an oil filter having a filter element surrounding a central core integral with and projecting upward from the base. With reference to Figure 1 of Whiteside, oil entering inlet aperture 13 exits aperture 10 and flows downward in the direction of arrow 21 through the filter element 16 to outlet aperture 14. Thus, the core structure is critical to Whiteside's teaching of a fluid flow in a direction parallel to the axis of the filter. Whiteside would not be useful for its intended purpose without a central core and such intended purpose does not provide for a centripetal fluid flow.

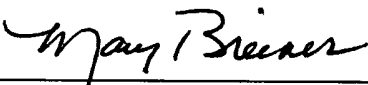
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Accordingly, applicants respectfully submit that none of the applied combinations of art teach or suggest the claimed invention. Withdrawal of the §103 rejections are therefore respectfully requested.

Reconsideration and allowance of the claims is respectfully urged. If the Examiner maintains the rejection(s), applicants request an interview with the Examiner prior to taking further action.

Respectfully submitted,

YVES MALECOT ET AL

By 

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Attachment - Proposed Corrected Figure 1